

# DATA SHEET QUECTEL EC21-E WIRELESS MODULE

## KEY BENEFITS

Cost-effective, lower-power LTE connectivity optimized for broadband IoT applications
Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage
Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
Feature refinements: supports DFOTA, eCall and DTMF
MIMO technology meets demands for data rate and link reliability in modem wireless communication systems
VoLTE support (optional)
Voice call and SMS (Text/PDU format) support

## NETWORK

<b>3GPP Protocol Stack Compliancy</b>	Release 10
<b>Support for TS.34 IoT Communication Efficiency</b>	Supported (RPM)
<b>Wireless Protocol Support</b>	
2G/GPRS	Supported
3G/UMTS	Supported
4G/LTE	Supported
NB-IoT	None
<b>Frequency Band Support</b>	
2G Bands (MHz)	900, 1800
3G Bands (MHz)	B1, B5, B8
4G FDD Bands (MHz)	B1, B3, B5, B7, B8, B20
4G TDD Bands (MHz)	None
NB-IoT Bands (MHz)	None
<b>3GPP Classes / Categories</b>	
CSD	Up to 9.6 kbps
GPRS Multislot Class (DL/UL)	12 (85.6 kbps, 85.6 kbps)
EDGE Class (DL/UL)	12 (236.8 kbps, 236.8 kbps)
HSDPA Category (DL)	24 (42 Mbps)
HSUPA Category (UL)	6 (5,76 Mbps)
LTE Category	1 (10 Mbps, 5 Mbps)
NB-IoT Category	None
<b>Short Message Service (SMS)</b>	Text, PDU
<b>Speech Codecs</b>	HR,FR,EFR,AMR,AMR-WB
<b>Firmware Updates</b>	Via USB, DFOTA

## Integrated Positioning Technology

GPS	Supported
GLONASS	Supported
Control Plane A-GPS Support	Supported
SUPL A-GPS Support	None

## Regulatory

eCall	Under development
Standalone / Assisted GNSS	Supported
TTY	None

## HARDWARE

Dimensions (L x W x H, mm)	29.0 × 32.0 × 2.4
Weight (g)	4.9
On-board Memory	None
Operating Temperature – Extended Operation (°C)	-40 °C to +85 °C
Supply Voltage Range (V)	3.3 - 4.3, 3.8 Typ.
<b>Interfaces</b>	
USB 2.0 (480 Mbps)	Supported
ASC0 HS Serial Modem	None
GPIO Lines	Supported
UICC and U/SIM (1.8 V/3 V)	1.8 V, 3 V
Module ON/Reset	Supported
ADC and I2C	Supported
4-Wire HS Serial Interfaces SCA1	None
Digital Audio, prepared for Analog Audio	Supported



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## CERTIFICATION DETAILS

GMA Certification	None
Deutsche Telekom Certification Date (Initial Firmware)	20.07.2018
Certified Deutsche Telekom Affiliates	AL, AT, CZ, DE, GR, HR, HU, ME, MK, NL, PL, RO, SK
Certifying Entity	IDU-TIV (Grzegorz Nowak)
DT Certification Type (Conditions)	<b>LIMITED</b>
<b>Deutsche Telekom Affiliate Country Codes</b>	
AL	Telekom Albania
AT	T-Mobile Austria GmbH
CZ	T-Mobile Czech Republic a.s.
DE	Telekom Deutschland GmbH
GR	COSMOTE Mobile Telecommunications S.A.
HR	Hrvatski Telekom d.d.
HU	Magyar Telekom Telecommunications plc
ME	Comrgski Telekom a.d. Podgorica
MK	Makedonski Telekom AD – Skopje
NL	T-Mobile Netherlands B.B.
PL	T-Mobile Polska S.A.
RO	Telekom Romania Mobile Communications S.A.
SK	Slovak Telekom, a.s.



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